STYRIKOVICH, M.A.; MIROPOL'SKIY, Z.L.; EVA, V.K.

Critical boiling as affected by local rises of heat flows along the channel. Dokl.AN SSSR 145 no.1:93-96 Jl '62. (MIRA 15:7)

1. Energeticheskiy institut imeni G.M.Krzhizhanovskogo.
2. Chlen-korrespondent AN SSSR (for Styrikovich).
(Ebullition)

S/281/63/000/001/001/004
E194/E184

AUTHOR: Styrikovich, M.A. (Moscow)

TITLE: Scientific problems of thermal power engineering and the problems of developing and improving large steam-generators

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Otdeleniye tekhnicheskikh nauk. Energetika i transport, no.1, 1963, 3-12

TEXT: This report, presented to the Sektsiya energetiki, topliva i transporta (Power, Fuel and Transport Section) of the Otdeleniye tekhnicheskikh nauk AN SSSR (Technical Science Division of AS USSR), is concerned only with long-range forcasts. The main task of heavy power engineering is to generate cheaply an enormous amount of electricity. The efficiency of power generating cycles can be improved by raising the temperature. If the cycle is closed the principal problem is in the steam-generator. Any increase in temperature occurs at very high pressure and so reheat is frequently used. This has disadvantages, particularly if the heat transfer medium is CO_2, which accordingly is likely to be used

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only in regions of expensive fuel. No better heat-transfer medium than steam has yet been found and none seems likely. Stop-valve pressure will not be reduced because there are few substances thermally stable at sufficiently high temperature but with moderate vapor pressure. Much may still be done to improve the steam cycle. With the open cycle it is easier to raise the temperature because any part of the equipment may be at a lower temperature than the working medium and stepwise application of heat is simpler. Turbine blades are difficult to cool but the amount of material in them is small and its expense can be accepted. If blades of good shape can be made with cooled edges the gas temperature might reach 1200-1300°. With magneto-hydrodynamic generation the initial temperature of the cycle can be raised more easily but combustion products cannot be ionized at possible flame temperatures even with oxygen enrichment; therefore, ionizing additives are needed and they are expensive and have other disadvantages. If magneto-hydrodynamic generation were run as a closed cycle the temperature might be considerably lower, less air preheating would be required and oxygen enrichment unnecessary.
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Thus, even with magneto-hydrodynamic generation the closed cycle may be maintained. Turbine sets are unlikely to use the open cycle, because the fuel combustion products cannot be condensed at ordinary temperatures and a compressor has to be used. Combustion products pure enough to make an acceptable working medium can be obtained only from natural gas. Even with an immense increase in fuel oil and gas output, more than half the large power stations will run for at least part of the year on solid fuel; the rest will run in winter on rather impure fuel oil. Difficulties are still experienced as a result of impurities in the fuel oil but even if all these were removed (which is costly and unpromising) the closed cycle would still probably be better than the open. Solid fuels cannot be purified. Much of the ash can be retained in the furnace but silicates, for instance, are volatilized and can only be removed when the gas has been cooled, so the closed steam cycle remains the most promising. Steam cycle equipment should be developed for two different sets of conditions; one for expensive fuel and base loads, and another for very cheap fuel where it does not pay to make the equipment 0.5% more expensive in capital costs
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to economise 1% of fuel. Soviet conditions require a special series of boilers each suited to particular kinds of fuel consumed in very large quantities. For example, about 2000 A.D. power stations of about 50 - 70 million kW should be operating on Kansk-Achilsk coal. Boilers will require a compact and efficient furnace construction. The burning zone and also the radiation cooling zone must be compact, which is easier if most of the ash is trapped in the furnace, to reduce wear of the tubes. The loading on radiation and semi-radiation heating surfaces must be raised and methods of cleaning furnaces of slagging improved; the mechanism of slagging needs further study. When burning high-sulphur fuel oil complete combustion must be achieved with hardly any excess air because then little SO_3 is formed and corrosion is reduced. Convective heating surfaces must be more heavily loaded but here the main problem is still that of slagging. High pressure steam generators have good calculated heat exchange but heating surface fouling is again important and it is likely that deposits will still occur despite the high gas speed and density. It is sometimes supposed that as the number of welds in a boiler increases it must become less reliable and so it is concluded that very large boilers

are impracticable. However, this is not so and low alloy steel tubes can be welded very reliably. Operating experience with the first units of 150 - 200 MW has shown that most failures occur with austenitic steels in the hot part of the super-heaters. The tubes themselves are not always of satisfactory quality. Boilers should continue to be built on the 'unit' principle of one turbine, one boiler, and not sectionalized. At super-critical steam conditions difficulties are experienced with the water, and compounds such as copper oxides, which are unimportant at sub-critical pressures, may become very important; this requires further investigation. Recently, development has concentrated on turbines rather than on boilers but this should be rectified if only because each type of turbine may require several types of boiler, depending upon the local fuel. Particular attention is required to the construction of auxiliary equipment; feed pumps, fittings, piping and fuel preparation equipment. Cyclone furnaces should be developed for boilers of 1500-2000 tons/hour, starting with only partial use of cyclones. More trained people are required, particularly in boiler engineering and in thermal-physical specialities.

SUBMITTED: September 14, 1962

Card 5/5

STYRIKOVICH, M.A.; NARGIZYAN, E.A., inzh.

Concerning the choice of thermal electric power plants for systems with long-range regulation. Teploenergetika 10 no.1:64-67 Ja '63. (MIRA 16:1)

1. Energeticheskiy institut pri Gosudarstvennom nauchno-ekonomicheskom sovete Soveta Ministrov SSSR. 2. Chlen-korrespondent AN SSSR (for Styrikovich).
(Electric power production)
(Electric power plants)

GOLUBTSOV, V.A., prof.; STYRIKOVICH, M.A., prof. MARGULOVA, T.Kh., doktor tekhn. nauk, prof.

Water cycle norms of thermal electric power plants. Teploenergetika 10 no.10:79-81 O'63 (MIRA 17:7)

1. Moskovskiy energeticheskiy institut. 2. Chleny-korrespondenty AN SSSR (for Golubtsov, Styrikovich.

L 17581-63 EWP(q)/EWT(m)/BDS AFFTC/ASD JD
ACCESSION NR: AP3005228 S/0089/63/015/002/0161/0163 58

AUTHORS: Sty*rikovich, M. A.; Merty*nova, O. I.; Katkovskaya, K. Ya.; Dubronskiy, I. Ya.; Mingulina, E. I.

TITLE: Analysis of distribution of aluminum hydroxide between water and saturated water vapor. 27

SOURCE: Atomnaya energiya, v. 15, no. 2, 1963, 161-163.

TOPIC TAGS: aluminum, aluminum hydroxide, atomic electrostation

ABSTRACT: Purity requirements for water vapor are much higher in atomic electrostations than in conventional thermal power installations. The products of corrosion may form hydroxides. The distribution of aluminum hydroxide between water and saturated water vapor at pressures 100 and 185 atm in a wide range of pH of the solution was experimentally determined in this work. The study confirmed the expectation that a considerable amount of aluminum hydroxide is transferred from water into the saturated vapor. The dependence of the true coefficient of aluminum hydroxide distribution was established. They correspond to a pH of the solution from 8 to 8.7. At higher or lower pH, the coefficient of distribution decreases sharply. Orig. art. has: 4 figures and 1 equation.

Card 1/1

STYRIKOVICH, M.A.; MARTYNOVA, O.I.

Steam contamination in boiling reactors due to water impurities dissolved in the steam. Atom. energ. 15 no.3:214-218 S '63. (MIRA 16:10)

(Nuclear reactors)

STYRIKOVICH, M.A.

Science of power engineering and the separation of its physical and technological problems. Izv. AN SSSR. Energ. i transp. no.1: 3-7 Ja-F '64. (MIRA 17:4)

ACCESSION NR: AP4042470 S/0294/64/002/003/0437/0445

AUTHORS: Sty*rikovich, M. A.; Nevstruyeva, Ye. I.

TITLE: Some new methods in the experimental investigation of boiling and the mechanism of critical boiling

SOURCE: Teplofizika vy*sokikh temperatur, v. 2, no. 3, 1964, 437-445

TOPIC TAGS: heat transfer, vapor pressure, nucleate boiling, gas bubble, flow field, saturation condition, boundary layer

ABSTRACT: The general field of the boiling of liquids was surveyed, and various new experimental methods describing the mechanism of boiling in terms of the hydrodynamic characteristics of the boiling layer are presented. In general, micro-analysis of boiling is lacking. Most of the existing data deal with microscopic phenomena connected with vapor-center formation during nucleate boiling, vapor-water two-phase circulation flows and boiling layers, often studied with the aid of high-speed motion picture cameras. Measurements of vapor-content close to the heated surface (0.4 to 0.6 mm) show curves with only a moderate curvature. A salt solution method is discussed for salts with negative solubility forming saturation solutions in the vicinity of the heated surface. Some experimental results are

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shown indicating the continuous increase in precipitate from the solution close to the heated surface, particularly, close to vapor-forming centers. The term circulation multiplicity is defined as the ratio $S_s/(S_s + S_L)$, where S_s - saturation limit at temperature of boiling layer and S_L - liquid phase of flow containing the salt solution. Analysis shows that when the heat load is increased C decreases sharply. Curves of maximum local vapor-center concentration φ versus heating rate show that magnitude of φ during nucleate boiling varies from 0.2 to 0.95 as a function of flow parameters upon the onset of critical conditions. The higher the flow rate the larger are the vapor-centers in nucleate boiling. These local vapor-rich centers are relatively insensitive to pressure changes. The above results are considered as preliminary, and more complete analyses are needed. Orig. art. has: 5 figures and 2 formulas.

ASSOCIATION: Nauchno-issledovatel'skiy institut vy*sokikh temperatur (Scientific Research Institute of High Temperatures)

SUBMITTED: 20Feb64 ENCL: 00

SUB CODE: ME, TD NO REF SOV: 006 OTHER: 010

Card 2/2

S/0030/64/000/004/0029/0033

ACCESSION NR: AP4036403

AUTHOR: Styrikovich, M. A. (Corresponding member)

TITLE: Department of physicotechnical problems in power engineering

SOURCE: AN SSSR. Vestnik, no. 4, 1964, 29-33

TOPIC TAGS: high temperature solution, equilibrium constant, heat transfer, mass transfer, thermal flux density, two phase hydrodynamics

ABSTRACT: This report on the State and Development of Science in 1963 was presented at the General Convention of the Academy of Sciences SSSR. All major electrical energy systems in the European SSSR were connected by the end of 1963, and the same was true for the systems in western and eastern Siberia. These two developments are regarded as major technical achievements of the last year. The ever-increasing energy consumption required a search for new energy sources and the development of a plan for the most economical future exploitation of those sources. Thermophysical research was the scientific basis for the solution of multiple problems of power engineering. The major trends of this research were the study of heat transfer agents, heat resistant structural materials, and the

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ACCESSION NR: AP4036403

application of the principles of chemical thermodynamics (properties of solutions, equilibrium constants at high temperatures, etc.). Other research activities were centered on the study of heat transfer and mass transfer at high temperatures and at high thermal flux densities, two-phase hydrodynamics, hydro-gas dynamics of steam turbines, gas turbines, and hydraulic turbines, compressors, pumps, ventilators, etc. Recent research centered also on problems involving the behavior of mineral impurities in fuels during combustion and the reactions between materials at high temperatures. Thermophysical investigations were conducted in the institutes of: Thermal Physics; Theoretical and Applied Mechanichs (Siberian branch); the Scientific Research Institute of High Temperatures; and also at the Academies of Science of the Ukrainian, Belorussian, and Lithuanian SSR and in several other institutions and universities. All investigations were directed and coordinated by the Nauchnyy Sovet po Vysokotemperaturnoy Teplofizike (Scientific Committee on High-Temperature Thermophysics). This organization started publication of the scientific journal "Thermophysics of High Temperatures" in 1963.

ASSOCIATION: none

SUBMITTED: 00 DATE ACQ: 20May64 ENCL: 00

SUB CODE: TD NO REF SOV: 000 OTHER: 000

Card 2/2

ACCESSION NR: AP4042259 S/0089/64/017/001/0045/0049

AUTHORS: Sty*rikovich, M. A.; Marty*nova, O. I.; Katkovskaya, K. Ya.; Dobrovskiy, I. Ya.; Smirnova, I. N.

TITLE: Transition of iodine from aqueous solutions into saturated steam

SOURCE: Atomnaya energiya, v. 17, no. 1, 1964, 45-49

TOPIC TAGS: reactor fuel rod, reactor coolant, reactor inspection, reactor safety, iodine, radioactivation analysis

ABSTRACT: In view of the importance of monitoring the tightness of the cladding of rod and plate type fuel elements in water-water and boiling-water reactors, the authors consider the quantitative distribution of elementary iodine (used as a detector of the tightness of the cladding) and its hydrolysis product between boiling water and dry vapor in equilibrium with it at pressures 1.9, 4, and 10

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kg/cm^2 at pH values from 5.5 to 11. The investigation was made by a bubbling method which is briefly described together with the apparatus employed. The results show that the fraction of the hydrolysis product at low concentrations ($<10^{-5}$--10^{-5} mole/liter) is practically equal to unity. At increased temperatures and increased steam density, HIO is produced and the coefficient of distribution of this acid between the boiling water and the steam is a power function of the ratio of the steam to liquid density. It is concluded that in evaporating equipment where the iodine concentration can exceed 10^{-4} mole per liter, the pH at room temperature must be kept in the interval 9.5--10 in order to prevent the iodine from being carried away from the water into the steam. When I^{131} is used as a monitor for fuel cladding element in boiling water reactors at pressures of 30 kg/cm^2 and above, the samples must be so taken as not to dilute them with steam, since the iodine content in the water exceeds that in the steam. Orig. art. has: 5 figures.

Card 2/6

ACCESSION NR: AP4042259

ASSOCIATION: None

SUBMITTED: 22Jul63

ENCL: 03

SUB CODE: NP

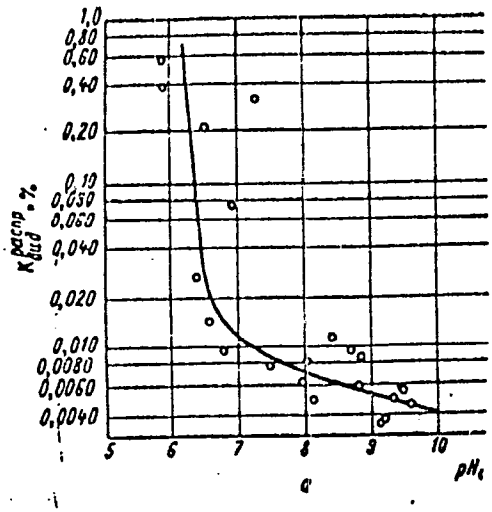
NR REF SOV: 005

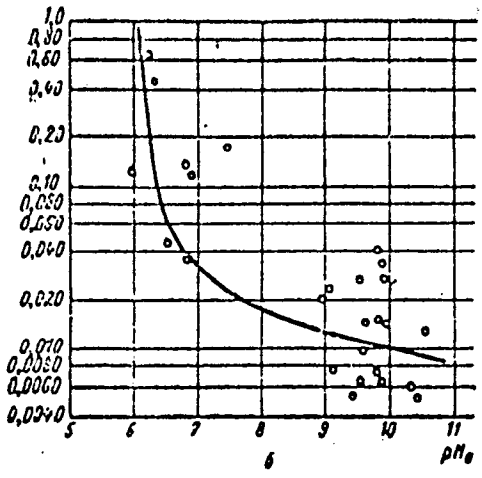
OTHER: 002

Card 3/6

ACCESSION NR: AP4042259

ENCLOSURE: 01

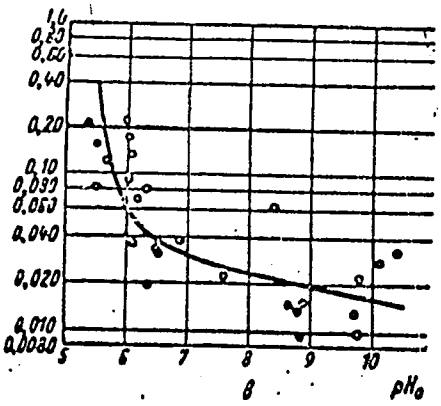




Card 4/6

ACCESSION NR: AP4042259

ENCLOSURE: 02

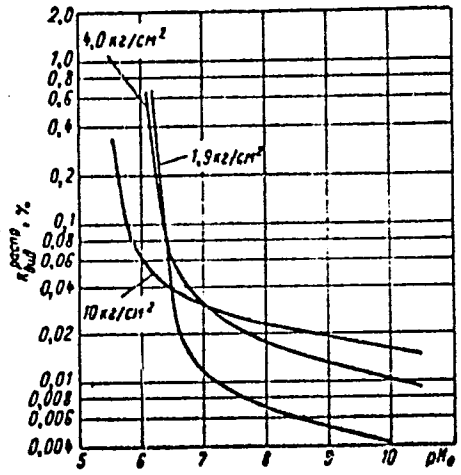


Dependence of iodine distribution coefficient on the pH at different pressures

Card 5/6

ACCESSION NR: AP4042259

ENCLOSURE: 03



Values of iodine distribution coefficient at low pressures

Card 6/6

STYRIKOVICH, M.A.; NEVSTRUYEVA, Ye.I.

Some new methods for experimental study of the mechanisms of boiling and critical boiling. Teplofiz. vys. temp. 2 no.3:437-445 My-Je '64. (MIRA 17:8)

1. Nauchno-issledovatel'skiy institut vysokikh temperatur.

STYRIKOVICH, M.A., akademik; PETUKHOV, V.I., inzh.; KOLOKOL'TSEV, V.A., kand.tekhn.nauk

Effect of the density of the gas phase on the magnitude of drop entrainment. Teploenergetika 11 no.11:50-54 N '64. (MIRA 17:12)

1. Energeticheskiy institut imeni G.M. Krzhizhanovskogo.

STYRIKOVICH, M.A. (Moskva); [illegible], Ye.I. (Moskva), [illegible], O.K. (Moskva); SARMA, P.K. (Moskva)

Some characteristics of heat and mass transfer in steam generating pipes. Izv. AN SSSR. Energ. i transp. no.5:620-625 S-O '64. (MIRA 17:12)

STYRIKOVICH, M.A., akademik

Basic problems of the development of heat engineering. Vest. AN SSSR 34 no.11:28-34 N '64. (MIRA 17:12)

STYRIKOVICH, M.A.; SEROV, Ye.P.; SMIRNOV, O.K. PULELA KAMESVARA SARMA.

Use of the "salt method" in studying the characteristics of mass and heat reansfer. Dokl. AN SSSR 157 no.1:91-94 Jl '64 (MIRA 17:8)

1. Chlen-korrespondent AN SSSR (for Styrikovich).

L 11548-66 EWT(d)/EWP(k)/EWP(1) JT

ACC NR: AP6005028 SOURCE CODE: UR/0105/65/000/001/0091/0091

AUTHOR: Ayvaz'yan, V. G.; Aleksandrov, B. K.; Andrianov, V. N.; Beschinskiy, A. A.; Budzko, I. A.; Zhimerin, D. G.; Krasnov, V. S.; Kruzhilin, G. N.; Kulebakin, V. S.; Listov, P. N.; Markvardt, K. G.; Markovich, I. M.; Popkov, V. I.; Styrikovich, M. A.

ORG: none

TITLE: Professor Andrey Georgiyevich Zakharin

SOURCE: Elektrichestvo, no. 1, 1965, 91

TOPIC TAGS: electric power engineering, electric engineering personnel

ABSTRACT: A short biography of subject on the occasion of his 60th birthday in November 64. A close disciple of Krzhizhanovskiy, he now heads sector of general methodological problems and forecasting at ENIN (Institute of Power Engineering imeni Krzhizhanovskiy), and power engineering section within its scientific council. In 1927-1932, worked in designing and construction of power stations and industrial power installations in the Trans-Caucasus. In 1932, having graduated as electrical engineer from Tbilisi Polytechnical Institute, he switched to scientific work at All-Union Institute of Farm Electrification, and at ENIN since 1944. Became candidate of technical sciences in 1937; doctor, in 1948. Subject is credited with working out the methods for designing efficient and economical regional and local power systems, utilizing local power resources and coordinating them with the power grids. He participated in studies on electrification through 1980, and on

UDC: 621.31:(0,75.5)

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L 11548-66

ACC NR: AP6005028 2

the application of mathematical methods to solution of problems concerning fuel-power balance. In recent years, he has been concerned with linear programming, and long-term prediction with computer techniques. He authored about 80 scientific works, including monographs, textbooks and handbooks, and has been editing all ENIM publications. Is active in CEMA commissions and GOSPLAN USSR, devoting special attention to coordination of scientific research in power engineering. Has been awarded the Order of the Badge of Merit and other decorations. Orig. art. has: 1 figure.
[JPRS] 14

SUB CODE: 09 / SUBM DATE: none

HW
Card 2/2

STYRIKOVICH, M.A., akademik; MARTYNOVA, O.I.; BELOVA, Z.S.

Use of the method of electroconductivity measurement in studying the mechanism underlying the distribution of salt between water and saturated water vapor. Dokl. AN SSSR 162 no.4:806-809 Je '65. (MIRA 18:5)

STYRIKOVICH, M.A., akademik

International session of power engineers in Lausanne. Vest. AN SSSR 35 no.4:73-76 Ap '65. (MIRA 18:6)

AKOL'ZIN, P.A.; GERASIMOV, V.V.; KASPEROVICH, A.I.; MAMET, A.P.; MAN'KINA, N.N.; MARGULOVA, T.Kh.; MARTYNOVA, O.I.; MIROPOL'SKIY, Z.L.; Prinimali uchastiye: DYATLOVA, N.M.; BIKHMAN, B.I.; STYRIKOVICH, M.A., retsenzent; KOSTRIKIN, Yu.M., red.

[Water system f thermal electric power plants (ordinary and atomic)] Vodnyi rezhim teplovykh elektrostantsii (obychnykh i atomnykh). [By] P.A.Akol'zin i dr. Moskva, Energiia, 1965. 382 p. (MIRA 18:3)

STYRIKOVICH, M.A., akademik; MARGULOVA, T.Kh., doktor tekhn. nauk

Efficient water separating system of condensate fed 140 atm. (14 min/m^2) drum boilers. Elek. sta. 36 no.2:6-8 F '65. (MIRA 18:4)

AYVAZ'YAN, V.G.; ALEKSANDROV, B.K.; ANDRIANOV, V.N.; BESCHINSKIY, A.A.; BUDZKO, I.A.; ZHIMERIN, D.G.; KRASNOV, V.S.; KRUZHILIN, G.N.; KULEBAKIN, V.S.; LISTOV, P.N.; MARKVARDT, K.G.; MARKOVICH, I.M.; POPKOV, V.I.; STYRIKOVICH, M.A.

Andrei Georgievich Zakharin, 1904- ; on his 60th birthday. Elektrichestvo no.1:91 Ja '65. (MIRA 18:7)

L 40885-66 EWT(1) WW/JT/GD

ACC NR: AT6021834 (A) SOURCE CODE: UR/0000/65/000/000/0042/0051

AUTHOR: Styrikovich, M. A.; Nevstruyeva, Ye. I.; Mekhdi, A. S.

ORG: High Temperature Research Institute, Moscow Power Institute (Nauchno-issledovatel'skiy institut vysokikh temperatur pri Moskovskom energeticheskom institute)

TITLE: New investigations of mass transfer at high heat fluxes

SOURCE: Teplo- i massoperenos. t. III: Teplo- i massoperenos pri fazovykh prevrashcheniyakh (Heat and mass transfer. v. 3: Heat and mass transfer in phase transformations). Minsk, Nauka i tekhnika, 1965, 42-51

TOPIC TAGS: mass transfer, heat flux, thermodynamic analysis

ABSTRACT: The experimental work described in the article was based on the fact that, for a solution of a salt which has a negative temperature solubility coefficient, precipitation of the solid phase takes place on the heating surface near which the formation of a supersaturated solution is possible. The experiments were carried out in a cylindrical glass tube placed between two Textolite headers. The heating surface was mounted in the bottom header. In one variation it consisted of a

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L 40885-66

ACC NR: AT6021834 C

Nichrome plate heated by alternating current, and in a second variation it consisted of a massive block of copper whose side walls were heated with an electric heater; in the latter case, the heat was transmitted by thermal conductivity. Experiments were carried out with forced motion of the liquid in the channel at a velocity of 0.5 meters/sec and at two pressures (atmospheric and of the order of 9 bars). Tests were made first with distilled water and then with solutions of calcium sulfate of determined concentrations. Experimental results are exhibited in graphic form. The results show that the concentration at the start of unlimited growth of the amount of salt deposited depends only slightly on underheating of the liquid up to the saturation temperature, but that it depends to a large degree on the magnitude of the heat flux, particularly with forced motion of the liquid. Orig. art. has: 4 figures.

SUB CODE: 20/ SUBM DATE: 09Dec65/ ORIG REF: 005

Card 2/2 nlc

STYRIKOVICH, M.A., akademik; MARGULOVA, T.Kh., doktor tekhn. nauk, prof.

Thermal network of blocks with supercritical parameters and water condition requirements. Teploenergetika 12 no.7:[illegible] Jl '65. (MIRA 18:7)

1. AN SSSR i Moskovskiy energeticheskiy institut.

STYRIKOVICH, M.A., akademik

Problems of steam generation in light of the present-day development of thermal power engineering. Teploenergetika 12 no.8:2-6 Ag '65. (MIRA 18:9)

1. Moskovskiy energeticheskiy institut.

ALAD'YEV, I.T.; ALEKSANDROV, B.K.; BAUM, V.A.; GOLOVINA, Ye.S.; GOL'DENBERG, S.A.; ZHIMERIN, D.G.; ZAKHARIN, A.G.; IYEVLEV, V.N.; KNORRE, V.G.; KOZLOV, G.I.; LEONT'YEVA, Z.I.; MARKOVICH, I.M.; MEYEROVICH, E.A.; MIKHNEVICH, G.V.; POPKOV, Z.I.; POPOV, V.A.; PREDVODITELEV, A.S.; PYATNITSKIY, L.N.; STYRIKOVICH, M.A.; TOLSTOV, Yu.G.; TSUKHANOVA, O.A.; CHUKHANOV, Z.F.; SHEYNDLIN, A.Ye.

Lev Nikolaevich Khitrin, 1907-1965; obituary. Izv. AN SSSR. Energ. i transp. no.2:159-160 Mr-Ap '65. (MIRA 18:6)

L 34857-66 JKT

ACC NR: AP6014075 SOURCE CODE: UR/0294/66/004/002/0267/0273

38
B

AUTHOR: Kirillin, V. A.; Rossiyevskiy, G. I.; Styrikovich, M. A.; Sheyndlin, A. Ye.

ORG: Scientific Research Institute of High Temperatures (Nauchno-issledovatel'skiy institut vysokikh temperatur); Moscow Engineering-Economics Institute im. S. Ordzhonikidze (Moskovskiy inzhenerno-ekonomicheskiy institut)

TITLE: Prospective efficiency of electric power stations with high-capacity open-type MHD generators [Reported at the Royal Society meeting of 4 Nov 65, England]

SOURCE: Teplofizika vysokikh temperatur, v. 4, no. 2, 1966, 267-273

TOPIC TAGS: MHD generator, electric power plant

ABSTRACT: The results are reported of an estimation of the thermal efficiency of MHD power plants; 500-Mw generators and high-temperature heating of

Card 1/2 UDC: 621.313.12:5384

ACC NR: AP7005448 SOURCE CODE: UR/0281/66/000/005/0105/0112

AUTHOR: Styrikovich, M. A. (Moscow); Godik, I. B. (Moscow)

ORG: none

TITLE: Method of calculating mass exchange in low temperature heat exchangers of magnetohydrodynamic installations

SOURCE: AN SSSR. Izvestiya. Energitiki i transport, no. 5, 1966, 105-112

TOPIC TAGS: heat exchanger, magnetohydrodynamics

ABSTRACT: Functional dependences are produced and analyzed which allow calculation of the material flux from a steam-gas mixture with low condensed vapor concentration to the wall of a recuperative heat exchanger-condenser, if the temperature regime of the apparatus is fixed. The specifics of mass exchange in the area of super heated and saturated vapors are analyzed. Orig. art. has: 21 figures. [JPRS: 39,568]

SUB CODE: 13,20 / SUBM DATE: 10Apr66 / ORIG REF: 010 / OTH REF: 001

Card 1/1 UDC: 536.423.4:075.5

STYRIKOVICH, P.V.

Role of midwives in reducing perinatal infant mortality.
Zdravookhranenie 6 no.5:12-15 S-O'63 (MIRA 16:12)

1. Glavnyy akusher-ginekolog Ministerstva zdravookhraneniya Moldavskoy SSR.

STYRIKOVICH, S. I., M. I. DOLMATKOV and I. D. SMIRI.

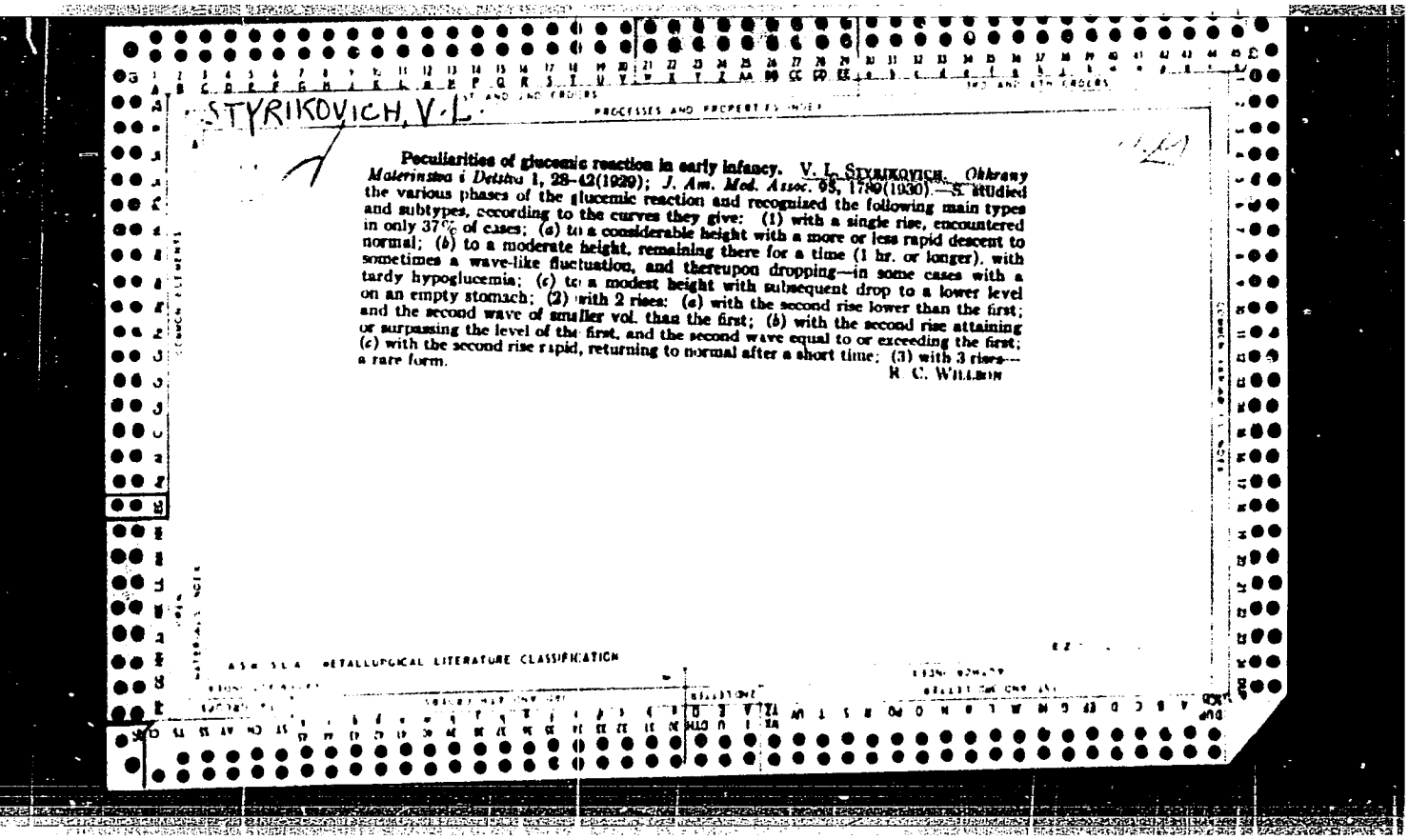
Metiznoe proizvodstvo; spravochnik po rezhimam rezaniia i normam vremeni na rez'bovye raboty. Moskva, Mashgiz, 1949. 199 p. diagrs.

Bibliography: p. [194]7.

Screw-threading; handbook on cutting conditions and time rates for threading work.

DLC: TJ1338.S87

SO: Manufacturing and Mechanical Engineering in the Soviet Union, Library of Congress, 1953.



STYRIKOVICH, V. L.

Peculiarities of glucemic reaction in early infancy. V. L. STYRIKOVICH. *Okhrany Materinstva i Detstva* 1, 28–42(1929); *J. Am. Med. Assoc.* 95, 1789(1930).—S. studied the various phases of the glucemic reaction and recognized the following main types and subtypes, according to the curves they give: (1) with a single rise, encountered in only 37% of cases; (*a*) to a considerable height with a more or less rapid descent to normal; (*b*) to a moderate height, remaining there for a time (1 hr. or longer), with sometimes a wave-like fluctuation, and thereupon dropping—in some cases with a tardy hypoglucemia; (*c*) to a modest height with subsequent drop to a lower level on an empty stomach; (2) with 2 rises: (*a*) with the second rise lower than the first; and the second wave of smaller vol. than the first; (*b*) with the second rise attaining or surpassing the level of the first, and the second wave equal to or exceeding the first; (*c*) with the second rise rapid, returning to normal after a short time; (3) with 3 rises—a rare form.

R. C. WILLIAMS

ASM SLA METALLURGICAL LITERATURE CLASSIFICATION

USSR / Human and Animal Physiology. Thermoregulation. T

Abs Jour: Ref Zhur-Biol., No 9, 1958, 41111.

Author : ~~Styrikovich, V. L.~~
Inst : Kishinev Medical Institute.
Title : Particularities of Skin Temperature, Topography in Childhood.

Orig Pub: Tr. Kishinevsk. med. in-ta, 1956, 5, 235-240.

Abstract: Skin Temperature was taken in children from birth to the age of 11 years. The difference of the mean maximal and minimal values of skin T^o was 3.3^o. Definite correlation in the distribution of T^o in various skin segments was noted. Several types of Temperature assymetry was found and described: 1) bilateral (assymetry of Temperature between symmetrical segments of the body), between the external and medial surfaces of the extremities; 2) be-

Card 1/2

L 10755-63 EWP(q)/EWT(m)/BDS--AFFTC/ASD--JD

ACCESSION NR: AP3002894 S/0054/63/000/002/0101/0107

57
55

AUTHOR: Ostroumov, V. V.; Sty*rkas, A. D.

TITLE: Electrolytic deposition of indium antimonide

SOURCE: Leningrad. Universitet. Vestnik. Seriya fiziki i khimii, no. 2, 1963, 101-107

TOPIC TAGS: indium antimonide, indium, antimony, intermetallic compounds, single crystals, films, electrolytic deposition, single deposition, cathodic potential, electrolytic deposition, cathodic polarization, limiting current, indium sulfate, antimony sulfate, Hall pickup, infrared detector

ABSTRACT: The growth of cathodic films of indium antimonide (InSb) single crystals by electrolytic deposition from aqueous antimony and indium sulfate solutions has been investigated. The study was prompted by the apparent simplicity of cathodic deposition which can produce a film of InSb single crystals of a desired thickness. It is noted that the semiconductor properties

Card 1/4

of InSb single crystals make them suitable for use in Hall pickups and infrared detectors. Cathodic deposition processes for In and Sb separately were studied as a preliminary step to the investigation of cathodic codeposition. Cathodic potentials were measured by the opposition method in electrolytes of varied composition and pH in a diaphragm cell under a carbon dioxide atmosphere. The Sb content of the cathodic deposit was determined by amperometric titration. Experimental cathodic polarization curves for Sb, In, and Sb + In deposits were plotted for solutions of the respective sulfates at various pH values and with or without agitation. It was established that 1) in the absence of In, compact crystalline Sb deposits with 96% current output can be obtained at 0.5 mamp/cm^2 from electrolytes with pH 0.45; 2) in the absence of Sb, comparable results can be achieved in In solutions within the 1—5 mamp/cm^2 current-density range at pH 2.5; 3) in solutions containing both Sb and In, the cathodic potential at the limiting current for Sb falls 200 mv short of the indium sulfate decomposition potential. Nevertheless, chemical analysis indicated the possibility of codeposition of In with Sb. However, a deposit with composition

corresponding to InSb is difficult to achieve, as suggested by Fig. 1 of the Enclosure. Deposits containing more than 15% Sb are porous and friable. Cathodic-deposits with compositions close to InSb contain Sb, In, and InSb as separate phases, as indicated by x-ray analysis. Subsequent heating of these deposits in a hydrogen atmosphere produced an increase in InSb content at the expense of the Sb and In phases. The high activation energy of formation of InSb from the elements is thought to be the primary obstacle to successful cathodic deposition of InSb. "The authors are grateful to S. P. Tibilov and R. L. Myuller for their assistance in the work." Orig. art. has: 4 figures and 3 tables.

ASSOCIATION: none

SUBMITTED: 17Dec62 DATE ACQ: 24Jul63 ENCL: 01

SUB CODE: 00 NO REF SOV: 013 OTHER: 016

Card 3/4

AUTHOR: Styrkin, I.N. SOV-91-58-9-16/29

TITLE: The Control System for DC Electric Motors of Boiler Belt Feeds (Skhema upravleniya elektrodvigatelyami postoyannogo toka lentochnykh pitateley kotlov)

PERIODICAL: Energetik, 1958, Nr 9, pp 22-24 (USSR)

ABSTRACT: The author describes the serious defects and shortcomings inherent in the B5101-021 control apparatus for use with 220 v dc electric motors driving the belt feeds, which supply raw coal to TP-230 boilers. The alterations which were made to the apparatus in a thermal electric plant, at the author's suggestion, are listed and illustrated. There are 2 circuit diagrams.

1. Electric motors (D.C.)--Control systems 2. Feed mechanisms --Equipment

Card 1/1

STYRIN, I.T.

Effort of the Donets Basin party organizations for technical progress in the coal industry in the years of the five-year plan. Trudy MGRI 39:180-193 '63. (MIRA 16:10)

STYRIKAS, A.D.; OSTROUMOV, V.V.; ANAN'YEVA, G.V.

Electrolytic coprecipitation of antimony and indium from a nonaqueous solution. Zhur. prikl. khim. 37 no.11:2431-2437 N '64 (MIRA 18:1)

L 34478-65 EWT(m)/EWP(t)/EWA(b) [illegible]

ACCESSION NR: AP5008264 S/0054/65/000/001/0106/0114

14
B

AUTHOR: Styrkas, A. D.; Ivanov, A. I.; Ostroumov, V. V.

TITLE: Electrolytic deposition of indium

SOURCE: Leningrad. Universitet. Vestnik. Seriya fiziki i khimii, no. 1, 1965, 106-114

TOPIC TAGS: indium deposition, electrolytic deposition, cathodic deposition, bright [illegible]

[illegible] indium, estr-

Card [illegible]

L 34478-65

ACCESSION NR: AP5008264

STYRIKOVICH, A.D., IVANOV, A.I., OSTROUMOV, V.V.

Processes of electrodeposition of indium. Vest. LGU 20 no.4:106-114 '65. (MIRA 18:4)

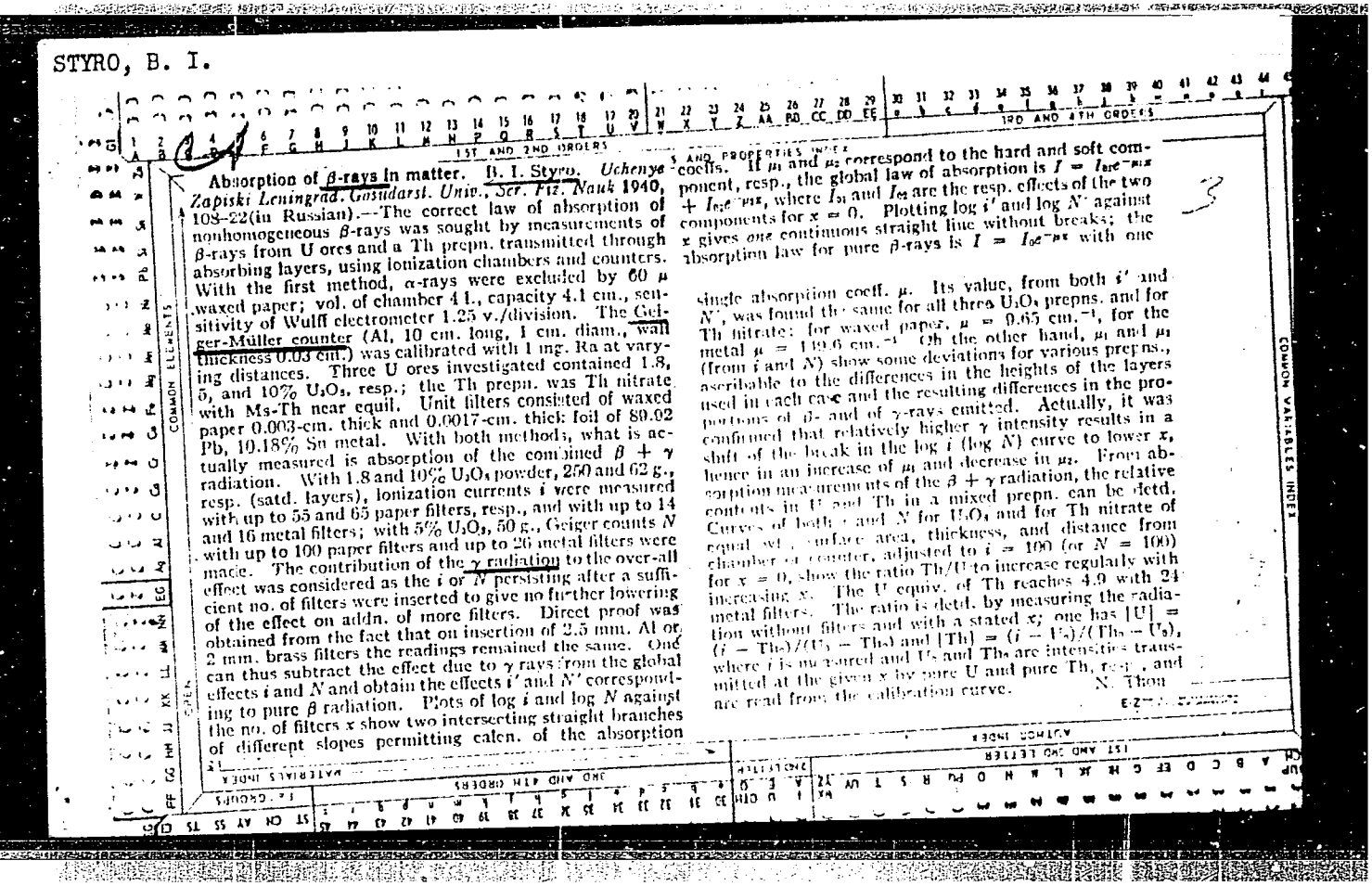
STYRYLSKA D.

BORKOWSKI, B.; STYRYLSKA, D.

Content of oil in melissa leaves during various seasons. Acta Poloniae pharm. 11 no.2:153-158 1954.

1. Z Zakladu Farmakognozji Akademii Medycznej w Warszawie. Kierownik: prof. dr J.Deryng.

(PLANTS,
*Melissa officinalis, content of oil in various seasons)
(OILS,
*in Melissa officinalis, seasonal factor)



STYRO, B. I.

Absorption of β-rays in matter. B. I. Styro. *Uchenye Zapiski Leningrad. Gosudarst. Univ., Ser. Fiz. Nauk* 1940, 108–22(in Russian).—The correct law of absorption of nonhomogeneous β-rays was sought by measurements of β-rays from U ores and a Th prepn. transmitted through absorbing layers, using ionization chambers and counters. With the first method, α-rays were excluded by 60 μ waxed paper; vol. of chamber 4 l., capacity 4.1 cm., sensitivity of Wulff electrometer 1.25 v./division. The Geiger-Müller counter (Al, 10 cm. long, 1 cm. diam., wall thickness 0.03 cm.) was calibrated with 1 mg. Ra at varying distances. Three U ores investigated contained 1.8, 5, and 10% U_3O_8, resp.; the Th prepn. was Th nitrate with Ms-Th near equil. Unit filters consisted of waxed paper 0.003-cm. thick and 0.0017-cm. thick foil of 80.02 Pb, 10.18% Sn metal. With both methods, what is actually measured is absorption of the combined β + γ radiation. With 1.8 and 10% U_3O_8 powder, 250 and 62 g., resp. (satd. layers), ionization currents i were measured with up to 55 and 65 paper filters, resp., and with up to 14 and 16 metal filters; with 5% U_3O_8, 50 g., Geiger counts N with up to 100 paper filters and up to 26 metal filters were made. The contribution of the γ radiation to the over-all effect was considered as the i or N persisting after a sufficient no. of filters were inserted to give no further lowering of the effect on addn. of more filters. Direct proof was obtained from the fact that on insertion of 2.5 mm. Al or 2 mm. brass filters the readings remained the same. One can thus subtract the effect due to γ rays from the global effects i and N and obtain the effects i' and N' corresponding to pure β radiation. Plots of log i and log N against the no. of filters x show two intersecting straight branches of different slopes permitting calcn. of the absorption coeffs. If μ_1 and μ_2 correspond to the hard and soft component, resp., the global law of absorption is $I = I_{01}e^{-\mu_1 x} + I_{02}e^{-\mu_2 x}$, where I_{01} and I_{02} are the resp. effects of the two components for $x = 0$. Plotting log i' and log N' against x gives *one* continuous straight line without breaks; the absorption law for pure β-rays is $I = I_0e^{-\mu x}$ with one single absorption coeff. μ. Its value, from both i' and N', was found the same for all three U_3O_8 prepns. and for Th nitrate: for waxed paper, $\mu = 0.65$ cm.$^{-1}$, for the metal $\mu = 119.6$ cm.$^{-1}$. On the other hand, μ_1 and μ_2 (from i and N) show some deviations for various prepns., ascribable to the differences in the heights of the layers used in each case and the resulting differences in the proportions of β- and of γ-rays emitted. Actually, it was confirmed that relatively higher γ intensity results in a shift of the break in the log i (log N) curve to lower x, hence in an increase of μ_1 and decrease in μ_2. From absorption measurements of the β + γ radiation, the relative contents in U and Th in a mixed prepn. can be detd. Curves of both i and N for U_3O_8 and for Th nitrate of equal wt., surface area, thickness, and distance from chamber or counter, adjusted to $i = 100$ (or $N = 100$) for $x = 0$, show the ratio Th/U to increase regularly with increasing x. The U equiv. of Th reaches 4.9 with 24 metal filters. The ratio is detd. by measuring the radiation without filters and with a stated x; one has $[U] = (i - Th_0)/(U_0 - Th_0)$ and $[Th] = (i - U_0)/(Th_0 - U_0)$, where i is measured and U_0 and Th_0 are intensities transmitted at the given x by pure U and pure Th, resp., and are read from the calibration curve.

N. Thon

STYRO, B. I.

Yestestvennaya Radioaktivnost' Osadkov (Natural Radioactivity of Precipitation) (doctor's dissertation), by B. I. Styro, Academy of Sciences Lithuanian SSR, 1953.

Sum. 1360

STYRO, B.I.

FEDOROV, Ye.Ye., professor; PREDTECHENSKIY, P.P.; BUCHINSKIY, I.Ye.; SEYAMINOV, G.T., professor; BOSHNO, L.V.; ALISOV, B.P.; BIRYUKOV, N.N.; GAL'TSOV, A.P.; GRIGOR'YEV, A.A., akademik; EYGENSON, M.S., professor; MURETOV, N.S.; KHROMOV, S.P.; BOGDANOV, P.N.; LEBEDEV, A.N.; SOKOLOV, V.N.; YANISHEVSKIY, Yu.D.; SAMOYLENKO, V.S.; USMANOV, R.F.; CHUBUKOV, L.A.; TROTSENKO, S.Ya.; VANGENGEYM, G.Ya.; SOKOLOV, I.F.; STYRO, B.I.; TEMNIKOVA, N.S.; ISAYEV, E.A.; DMITRIYEV, A.A.; MALYUGIN, Ye.A.; LIEDEMAA, Ye.K.; SAPOZHNIKOVA, S.A.; RAKIPOVA, L.R.; POKROVSKAYA, T.V.; RAGDASARYAN, A.B.; ORLOVA, V.V.; RUBINSHTEYN, Ye.S., professor; MILEVSKIY, V.Yu.; SHCHERBAKOVA, Ye.Ya.; BOCHKOV, A.P.; ANAPOL'SKAYA, L.Ye.; DUNAYEVA, A.V.; UTESHEV, A.S.; RUDNEVA, A.V.; RUDENKO, A.I.; ZOLOTAREV, M.A.; NERSESYAN, A.G.; MIKHAYLOV, A.N.; GAVRILOV, V.A.; TSOMAYA, T.I.; DEVYATKOVA, A.M.; ZAVARINA, M.V.; SHMETER, S.M.; BUDYKO, M.I., professor.

Discussion of the report (in the form of debates) [of the current state climatological research and methods of developing it]. Inform. sbor.GUGMS no.3/4:26-154 '54. (MLRA 8:3)

1. Chlen-korrespondent Akademii nauk SSSR (for Fedorov). 2. Glavnaya geofizicheskaya observatoriya im. A.I.Voeykova (for Predtechenskiy, Lebedev, Yanishevskiy, Isayev, Rakipova, Pokrovskaya, Orlova, Rubinshteyn, Budyko, Shcherbakova, Anapol'skaya, Dunayeva, Rudneva, Gavrilov, Zavarina). 3. Ukrainskiy nauchno-issledovatel'skiy gidrometeorologicheskiy institut (for Buchinskiy).

(Continued on next card)

FEDOROV, Ye.Ye., professor; PREDTECHENSKIY, P.P., and others.

Discussion of the report (in the form of debates) [of the current state climatological research and methods of developing it]. Inform. sbor. GUGMS no.3/4:26-154 '54. (Card 2) (MIRA 8:3)

4. Vsesoyuznyy institut rastenievodstva (for Selyaninov, Rudenko). 5. Bioklimaticheskaya stantsiya Kislovodsk (for Boshno). 6. Moskovskiy gosudarstvennyy universitet im. M.V.Lomonosova (for Alisov). 7. Ministerstvo putey soobshcheniya SSSR (for Biryukov). 8. Institut geografii Akademii nauk SSSR (for Gal'tsov, Grigor'yev). 9. Geofizicheskaya komissiya Vsesoyuznogo geograficheskogo obshchestva (for Eygenson). 10. Ministerstvo elektrostantsiy i elektropromyshlennosti SSSR (for Muretov). 11. Leningradskiy gosudarstvennyy universitet im. A.A.Zhdanova (for Khromov). 12. TSentral'nyy nauchno-issledovatel'skiy gidrometeorologicheskiy arkhiv (for Sokolov, Zolotarev). 13. Gosudarstvennyy okeanograficheskiy institut (for Samoylenko). 14. TSentral'nyy institut prognozov (for Usmanov, Sapozhnikova). 15. Institut geografii Akademii nauk SSSR i TSentral'nyy institut kurortologii (for Chubukov). 16. Nauchno-issledovatel'skiy institut imeni Sechenova, Yalta (for Tretsenko). 17. Arkticheskiy nauchno-issledovatel'skiy institut (for Vangengeym).

(Continued on next card)

FEDOROV, Ye.Ye., professor; PREDTECHENSKIY, P.P., and others.

Discussion of the report (in the form of debates) [of the current state of climatological research and methods of developing it]. Inform.sbor. GUGMS no.3/4:28-154 '54. (Card 3) (MLRA 8:3)

18. Dal'nevostochnyy nauchno-issledovatel'skiy gidrometeorologicheskiy institut (for Sokolov). 19. Institut geologii i geografii Akademii nauk Litovskoy SSR (for Styra). 20. Rostovskoe upravlenie gidrometsluzhby (for Temnikova). 21. Morskoy gidrofizicheskiy Institut Akademii nauk SSSR (for Dmitriyev). 22. Vsesoyuznyy institut rasteniyevodstva (for Malyugin). 23. Akademiya nauk Estonskoy SSR (for Liedemaa). 24. Akademiya nauk Armyanskoy SSR (for Bagdasaryan). 25. Leningradskiy gidrometeorologicheskiy institut (for Milevskiy).

(Continued on next card)

FEDOROV, Ye.Ye., professor; PREDTECHENSKIY, P.P., and others.

Discussion of the report (in the form of debates) [of the current state climatological research and methods of developing it]. Inform.sbor. GUGMS no.3/4:26-154 '54. (Card 4) (MLRA 8:3)

26. Gosudarstvennyy gidrologicheskiy institut (for Bochkov). 27. Kazakhskiy nauchno-issledovatel'skiy gidrometeorologicheskiy institut (for Uteshev). 28. Upravlenie gidrometsluzhby Armyanskoy SSR (for Nersesyan). 29. Leningradskoye upravleniye gidrometsluzhby (for Mikhaylov, Devyatkova). 30. Tbilisskiy gosudarstvennyy universitet (for Tsomaya). 31. TSentral'naya aerologicheskaya observatoriya (for Shmeter).
(Climatology)

14-57-6-12028

Translation from: Referativnyy zhurnal, Geografiya, 1957, Nr 6, p 53 (USSR)

AUTHOR: Styro, B. I.

TITLE: Radioactivity of Atmospheric Precipitation (O prirode aktivnosti atmosfernykh osadkov)

PERIODICAL: Nauch. soobshch. In-t geol. i geogr. AN LitSSR, 1955, Vol 2, pp 5-54

ABSTRACT: The study offers a comprehensive review of the literature on the radioactivity of atmospheric precipitation. Results of an experimental study on the radioactivity of precipitation are presented. Samples of precipitation were collected in special flat metal vessels with variable size of collecting surfaces. Geiger-Muller light-gauge counter facilitated radioactive measurement of the samples and of the post-evaporative residue. Actual decomposition curves of radioactive

Card 1/2

Radioactivity of Atmospheric Precipitation (Cont.)

substances present in rain water were analyzed by being compared with the theoretical curves. The article includes the explanation of theory used in calculation of theoretical curves. The experiments showed that dissolved Rh-RaA, RaB, and RaC are usually present. Moreover, an active supplementary component was detected, which apparently belongs to Na^{24} u Ar^{41}. The method of least squares was used to determine constants of decomposition of radioactive substances in the atmospheric precipitation. A bibliography of 52 titles is included.

L. D. S.

Card 2/2

STYRA, B.

The process of the activity of precipitations in the atmosphere.

p. 55 (Liethuvos TSR Mokslu akademija. Geologijos ir geografijos institutas. MOKSLINIAI PRANESIMAI. Vol. 2, 1955, Vilnius, Lithuania)

Monthly Index of East European Accessions (EEAI) LC. Vol. 7, no. 2, February 1958

14-57-6-12029

Translation from: Referativnyy zhurnal Geografiya, 1957, Nr 6, p 53 (USSR)

AUTHOR: Styro, B. I.

TITLE: Radioactivity of Atmospheric Precipitation (Nekotoryye voprosy aktivirovaniya atmosfernykh osadkov)

PERIODICAL: Nauch. soobshch. In-t geol. i goegr. AN LitSSR, 1955, Vol 2, pp 63-72

ABSTRACT: The assertion is made that cloud drops acquire their radioactivity by a purely electrical means, and that the mechanics of this process are similar to activating a negatively charged ground wire. The speed at which atoms settle on cloud drops under stationary conditions is determined by the equation:

$$\frac{dm_A}{dt} = \alpha \frac{\lambda_E}{\lambda_A} N_E \frac{n-q}{m},$$

Card 1/3

Radioactivity of Atmospheric Precipitation (Cont.)

where m_A is specific atom concentration on drops, a is the probability of capturing of RaA atoms by a drops, n^-q/m is specific negative charge of cloud particles, N_E is Rn concentration in a single cloud unit, λ_E is the Rn decomposition constant, λ_A is the RaA decomposition constant. This formula can be rewriten as:

$\Delta I_o = \alpha (n^-\bar{q}/m) N_E \phi$, where $\phi = \phi (\lambda A, \lambda B, \lambda C, \lambda E, t, T)$ is a nondimensional coefficient depending upon decomposition constants, the time needed by the sample to be formed in the cloud, T, and the time needed to complete the determination, t; ΔI is the number of decompositions occurring in one minute as recorded by a counter. Using information obtained by studying radioactivity of the cloud masses, it has been calculated that $\alpha = 3.8 \times 10^{-2}$ $cm^{3/2}/g^{\frac{1}{2}}$.

The author has also considered whether it is possible to determine the coefficient of a vertical turbulent exchange from data on cloud radioactivity, obtained under stationary conditions by means of the formula:

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Radioactivity of Atmospheric Precipitation (Cont.)

$$K_z = \frac{\lambda_E \Delta I_o h m}{\alpha \phi \bar{\rho} n \bar{q}} \cdot \frac{1}{dN_E/dz}$$, where K is the coefficient

of vertical turbulent exchange, dN_E/dz is the vertical gradient of emission concentration, h is vertical cloud thickness, ρ is average atmospheric density. When calculated by this formula, K_z falls between 4 and 17 m^2/second. Other investigators reported that, under the same conditions, K_z falls between 4 and 75 m^2/second. The author's results do not contradict their findings.

L. D. S.

Card 3/3

14-57-6-11988

Translation from: Referativnyy zhurnal, Geografiya, 1957, Nr 6, p 47-48 (USSR)

AUTHORS: Styro, B. I., Garbalyauskas, C.

TITLE: Total Radiation in the Lithuanian SSR (Summarnaya radiatsiya na territorii Litovskoy SSR--in Lithuanian)

PERIODICAL: Nauch. soobshch. In-t geol. i geogr. AN LitSSR, 1955, Vol 2, pp 73-86

ABSTRACT: This study reports the results obtained from calculating daily totals of gross radiation (Q+q) for the city of Kaunas, based on actinometric observations made from 1938 to 1951. Mid-monthly totals are highest in June (14 000 cal/cm^2). Isolines (Q+q) in the Lithuanian SSR are aligned in an almost meridional direction. The annual progress of Q+q is asymmetrical. The further it moves from the sea, the greater its asymmetry becomes. In calculating total radiation,

Card 1/2

14-57-6-11988

Total Radiation in the Lithuanian SSR (Cont.)

"APPROVED FOR RELEASE: 08/26/2000 CIA-RDP86-00513R001653710014-3"

the relationship between Q+q and the length of sunshine S/Q+q = 48.54 S + 59.49 was used. The article contains the tables of heat totals for the vegetation growing and for the periods of sustained temperatures.

I. N. L.

Card 2/2

STYRO, B. I.

14-1-535

Translation from: Referativnyy Zhurnal, Geografiya, 1957, Nr 1, p. 60 (USSR)

AUTHOR: Styro, B. I.

TITLE: Regarding the Magnitude of the Activity of Atmospheric Precipitations (O velichine aktivnosti atmosfernykh osadkov)

PERIODICAL: Liet. TSR Mokslu akad. darbai; Tr. AN LitSSR, 1956, B1, pp. 37-59 [Text in Russian; Lithuanian resume.]

ABSTRACT: Bibliographic entry

Card 1/1

SOV/124-57-9-10600

Translation from: Referativnyy zhurnal. Mekhanika, 1957, Nr 9, p 106 (USSR)

AUTHOR: Styro, B. I.

TITLE: On the Activation of Negatively-charged Cloud Drops (Ob aktivirovanii otritsatel'no zarazhennykh kapel' v oblake)

PERIODICAL: Tr. AN LitSSR, 1956, Vol B2, pp 21-29

ABSTRACT: The paper analyzes the capture by charged cloud and rain drops of ions of radioactive substances present in the atmosphere. Under the assumption that the drops are negatively charged and that the magnitude of the charge is in direct ratio to their radius, the coefficient of the capture of the positive ions by drops of various sizes is calculated. The author's calculations demonstrate that the observed radioactivity of rain drops could be basically explained by adsorption processes within the clouds. The capture of radioactive ions by the rain drops on the way down from the cloud to the earth is not, in the author's opinion, of any significant magnitude.

N. S. Shishkin

Card 1/1

STYRO, B.I.

Category : USSR/Atomic and Molecular Physics - Liquids D-8

Abs Jour : Ref Zhur - Fizike, No 3, 1957, No 6434

Author : Styro, B.I., Garbalyauskas, Ch.A.
Inst : Institute of Geology and Geography, Academy of Sciences, Lithuanian SSR
Title : On the Coefficient of Coagulation of Drops

Orig Pub : Liet. TSR Mokslu ALed. Darbai, Tr. AN Sit SSR, 1956, B3 (6), 25-30

Abstract : The value of the coefficient of coagulation was experimentally determined for drops in a fog stream that are neutral, charged, or irradiated by means of ionizers. The dependence of the coefficient of coagulation on the charge was obtained for those parameters, which theoretically should be charge-independent.

Card : 1/1

S/236/62/000/004/002/009
D218/D308

AUTHORS: Styro, B. I. and Garbalyauskas, Ch. A.

TITLE: On the natural radioactivity of atmospheric precipitation and some associated problems

SOURCE: Akademiya nauk Litovskoy SSR. Trudy. Seriy B. no. 4, 1962, 23-38

TEXT: Measurements of the artificial radioactivity of samples of atmospheric precipitation were carried out at the authors' Institute between the autumn of 1957 and February 1960. The samples were collected in open vessels and the residues remaining after filtering and evaporation were examined with a Geiger counter incorporating an aluminum cathode of 39.5 mg cm^{-2}. A detailed list of all the measurements is reproduced showing the radioactivity as a function of time and type of precipitation. These data are then used to determine the specific radioactivity of various types of precipitation. However, no definite conclusions can as yet be drawn as regards these different types of precipitation in view of

Card 1/3

On the natural radioactivity ...

the relatively small number of cases examined so far. Analysis of the results is continuing. A further series of experiments was concerned with correlating the radioactivity with synoptic conditions. Determinations were made of the radioactivity as a function of the form of the atmospheric pressure field and the type of fronts. It was found that the average value of artificial radioactivity of atmospheric precipitation during the above period was 1.69×10^{-11} C g^{-1}. The maximum value recorded during that period was 16.1×10^{-11} C g^{-1}. It was found that light snow precipitation is characterized by the maximum specific radioactivity. This is explained by the capture of the radioactive aerosol in the lower layers of the atmosphere during additional sublimation of vapor from crystals. It was found that the 'age' of the precipitation, i.e. the minimum time spent by the droplets in the cloud, tends to decrease as the time during which the precipitation takes place increases. Maximum values of the specific radioactivity correspond to precipitation associated with transient parametric fields, and with cold fronts in the case of frontal-type weather. An increase

On the natural radioactivity ...

in the natural specific radioactivity of precipitation during the last ten years was established and this is attributed to additional 'pseudonatural' radioactivity due to the fallout of uranium from nuclear tests. There are 2 figures and 9 tables.

ASSOCIATION: Institut geologii i geografii AN Litovskoy SSR, Vil'nyus (Institute of Geology and Geography, AS Lithuanian SSR, Vilna)

SUBMITTED: March 28, 1962

Card 3/3

STYRO, B. doktor fiziko-matematicheskikh nauk

Mirth of microworlds. IUn.tekh. 7 no.12:9 of insert - 34 D '62.
(MIRA 16:4)

(Radioactive substances)

...YRA, B.I. [Styra, B.]; GARBALIAUSKAS, C. [Garbaliauskas, C.]

Natural radioactivity of atmospheric precipitation and some related problems. Trudy AN Lit. SSR Ser. B no.4:23-40 '62. (MIRA 18:3)

1. Institut geologii i geografii AN Litovskoy SSR.

STYRO, B.I.; GARBALYAUSKAS, Ch.A.; MATULEVICHUS, V.P.; POTSYUS, V.Yu.; SHOPAUSKAS, K.K.

Presence of alpha-emitting "hot" aerosols in the atmosphere. Atom. energ. 15 no.3:262-264 S '63. (MIRA 16:10)

(Aerosols)

STYRO, B.I.; GARBALYAUSKAS, Ch.A.; LUYANAS, V.I.; MATULYAVICHUS, V.P.; NEDVETSKAYTE, T.N.; TOMKUS, I.S.

Secondary dust component of radioactive contaminations in the bottom atmospheric layer. Atom. energ. 15 no.4:339-341 O '63. (MIRA 16:10)

ACCESSION NR: AP4031103 S/0236/64/000/001/0003/0009

AUTHOR: Sty*ro, B.I.; Vebra, E.I.; Shopauskas, K.K.

TITLE: The radioactivity profile in clouded air

SOURCE: AN LitSSR. Trudy*. Seriya B, no. 1, 1964, 3-9

TOPIC TAGS: radioactivity, di tribution in air, distribution in cloud , radon decomposition, coagulation coefficient

ABSTRACT: The distribution of radioactivity in the air in a cloud was studied and the profile obtained was associated with the coagulation coefficient and other structural elements of the cloud. Measurements were made of the radioactivity in the air inside and outside clouds by probing from aircraft; and a series of experimental radioactivity profiles were obtained. There is significantly less radioactivity in cloudy air than outside the cloud zone, but the value never decreases to zero, and the variation of the radioactivity concentration in the cloud is insignificant. This residual radioactivity is closely connected with the microphysical characteristics of clouds and depends on the magnitude of the coefficient of coagulation of cloud droplets with radioactive aerosols. Thus

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it appeared possible to determine this coefficient of coagulation from the radioactivity profile in the cloud. Formulas were derived for determining the change of radioactivity in clouded air (N_λ = the number of atoms formed by radon decomposition) according to the altitude:

$$N_\lambda = \left[N_{\lambda,0} - \frac{\lambda_{Ra} N_{Rn,0}}{\lambda_\lambda + kn - \alpha w}\right] e^{-\frac{\lambda_\lambda + kn}{w} z} + \frac{\lambda_{Ra} N_{Rn,0}}{\lambda_\lambda + kn - \alpha w} e^{-\alpha z}.$$

and when $\alpha = 0$, i.e., when radon concentration is constant:

$$\dot{N}_\lambda = \left[N_{\lambda,0} - \frac{\lambda_{Ra} N_{Rn,0}}{\lambda_\lambda + kn}\right] e^{-\frac{\lambda_\lambda + kn}{w} z} + \frac{\lambda_{Ra} N_{Rn,0}}{\lambda_\lambda + kn}.$$

where λ_λ is the isotope decomposition constant; $N_{Rn,z}$ is the concentration of radon in the cloud and $N_{Rn,0}$ at the lower boundary of the cloud; w is the rate of vertidal filtration of air through the cloud; z is the altitutde; n, the concentration of the drops; λ_{Rn} is radon decomposition, and k is the coefficient of coagulation of drops with radioactive aerosols. The magnitude of the coefficient of coagulating radioactive aerosols with cloud drops is of the order of 10^{-5} 1/sec. Orig. art. has: 4 figures, 1 table and 8 equations.

ACCESSION NR: AP4031103

ASSOCIATION: Institut geologii i geographii, akademii nauk Litovskoy SSR (Institute of Geology and Geography, Academy of Sciences,Lithuanian SSR)

SUBMITTED: 20Jul63 ENCL: 00

SUB CODE: ES NR REF SOV: 005 OTHER: 000

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ACCESSION NR: AP4041454 S/0089/64/016/006/0528/0530

AUTHORS: Sty*ro, B. I.; Vebra, E. Yu.; Shopauskas, K. K.

TITLE: On some physical characteristics of hot Alpha-active aerosol particles

SOURCE: Atomnaya energiya, v. 16, no. 6, 1964, 528-530

TOPIC TAGS: aerosol, fallout, alpha contamination, radon, neptunium

ABSTRACT: The characteristics of about 20 α-active hot aerosol particles found in samples gathered near Vil'nyus at altitudes 0--3 km are described. The particles are characterized by "fans" of alpha tracks. The fan tracks corresponding to the highest energies are probably the daughter products of radon decay or some products of the neptunium family. The activity of the hot particles was determined from the number of tracks, and the dimensions could be determined by making certain assumptions relative to the particle isotopic composi-

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ACCESSION NR: AP4041454

tion. The few actually measured particle sizes lie between the values obtained when the fan is assumed to be produced by U^{235} and Pu^{239} respectively. It can therefore be concluded that the hot aerosol particles are not uniform and consist of isotopes such as U^{235}, U^{238}, Th^{232}, and Pu^{239}. It is concluded that their isotopic composition needs further study. Orig. art. has: 3 figures, 2 formulas, and 1 table.

ASSOCIATION: None

SUBMITTED: 05Aug63 ENCL: 01

SUB CODE: NP, CB NR REF SOV: 002 OTHER: 002

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ENCLOSURE: 01

ACCESSION NR: AP4041454

Some properties of hot alpha-active aerosol particles

Legend:
1 - particle no.
2 - sampling flight altitude
3 - exposure, hr
4 - number of alpha tracks in fan
5 - activity, Cu
6 - dia. of act. part., microns
7 - measured
8 - calc. from U-235 radiation
9 - calc. from Pu-239 radiation
10 - ground level

1 Номер частицы	2 Высота полета при отборе пробы, м	3 Продолжительность экспозиции, ч	4 Число α-треков в веере	5 Активность, кюри	6 Диаметр активной части частицы,	
					7 измеренный	8 вычисленный по α-излучению U^{235}
1	1000	30,3	888	$2,6 \cdot 10^{-13}$	12	22,0
2	1000	74	161	$3,3 \cdot 10^{-14}$	8	11,6
3	1000	74	38	$7,8 \cdot 10^{-15}$	4	7,0
4	1000	235	37	$2,4 \cdot 10^{-15}$	—	4,8
5	1000	235	26	$1,7 \cdot 10^{-15}$	—	4,2
6	1000	235	17	$1,1 \cdot 10^{-15}$	—	3,7
7	1000	235	12	$7,7 \cdot 10^{-16}$	—	3,3
8	1000	235	10	$6,4 \cdot 10^{-16}$	—	3,1
9	1000	235	8	$5,1 \cdot 10^{-16}$	—	2,9
10	1000	235	6	$3,8 \cdot 10^{-16}$	—	2,6
11	1000	235	10	$6,4 \cdot 10^{-16}$	—	3,1
12	1000	235	5	$3,2 \cdot 10^{-16}$	—	2,5
13	870	240	400	$2,5 \cdot 10^{-14}$	7	10,6
14	870	240	350	$2,2 \cdot 10^{-14}$	—	10,1
15	870	240	29	$1,8 \cdot 10^{-15}$	—	4,4
16	870	240	22	$1,4 \cdot 10^{-15}$	—	4,0
17	870	240	7	$4,4 \cdot 10^{-16}$	—	2,7
18		240	16	$1,0 \cdot 10^{-15}$	—	3,6
19	на уровне земли	240	400	$2,5 \cdot 10^{-14}$	—	10,6
20		240	5	$3,1 \cdot 10^{-16}$	—	2,4

10

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ACCESSION NR: AP4018352 S/0251/64/033/001/0061/0067

AUTHORS: Sty*ro, B. I.; Vebra, E. I.; Shopauskas, K. K.; Khundzhua, T. G.

TITLE: On the coagulation of radioactive aerosols with cloud drops (Presented by A. M. Mirianashvili, corresponding member of the Academy on May 12, 1963)

SOURCE: AN GruzSSR. Soobshcheniya, v. 33, no. 1, 1964, 61-67

TOPIC TAGS: radioactive aerosol, cloud drop, coagulation coefficient, filtering system D2 03 27 v, nuclear emulsion A 2, microscope system MBI 2, turbulent mixing, Brownian motion

ABSTRACT: A new experimental method is presented for determining the coagulation of radioactive aerosols with cloud drops. For measuring the radioactivity in the atmosphere an intake nozzle was installed above the overhead port of an aircraft at a distance of 0.5 m from the fuselage along the direction of motion of the aircraft. The air was filtered by a D-2-03-27v system, using fiber filters. The system was so designed that the drops could not percolate into the filter (this was checked by using erythrozene). During the test flight 1 cubic meter of air was inducted in 6 minutes. The filter was then removed and brought in contact with nuclear photoemulsion of type A-2. After 20 hours of exposure, the system

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STYRO, B.I. [Styra, B.]; VEBRA, E.I.; SHOPAUSKAS, K.K. [Šopauskas, K.]

Radioactivity profiles in overcast air. Trudy AN Lit.SSR. Ser. B. no.1:3-9 '64 (MIRA 17:7)

1. Institut geologii i geografii AN Litovskoy SSR.

STYRO, B.I. [Styra.B.]; MATULYAVICHYUS, V.I. [Matulevicius, V.]

Selectivity of some methods for sampling radioactivity in the air. Trudy AN Lit. SSR. Ser. B. no.1:35-44 '64 (MIRA 17:7)

1. Institut geologii i geografii AN Litovskoy SSR.

STYRO, B.I.; VEBRA, E.I.; SHOPAUSKAS, K.K.; KHUNDZHUA, T.G.

Coagulation of radioactive aerosols with cloud droplets.
Soob. AN Gruz. SSR 33 no.1:61-67 Ja '64. (MIRA 17:7)

1. Institut geofiziki AN Gruzinskoy SSR. Predstavleno chlenom korrespondentom akade. ii M.M. Miriashvili.

L 25659-65 EWT(1)/EWT(m)/FCC DIAAP GW
ACC NR: AM5028931 Monograph UR/

51
B+1

Styro, Boleslav Iosifovich

Nuclear meteorology (YAdernaya meteorologiya) Leningrad, Gidrometeoizdat, 65. 0139 p. illus., 1,500 copies printed.

TOPIC TAGS: Meteorology, atmospheric radioactivity, atmospheric circulation, stratosphere, radioactivity, nuclear blast effect, radioactive fallout, radiation belt

PURPOSE AND COVERAGE: This book discusses complex processes of nuclear meteorology, the occurence of radioactive matter in the atmosphere and its circulation around the earth. Also, a study of the after effects of nuclear and thermonuclear explosions in the atmosphere is made, and a study of artificial belts of radiation is made to determine local and planetary conditions created by man. This book is recommende to wide group of readers interested in meteorology.

TABLE OF CONTENTS (abridged):

UDC: 551.510.71+72(023)

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L 25659-66

ACC NR: AM5028931 O

SUB CODE: 04,18/ SUBM DATE: 28Dec65/

Card 2/2 dda

L 3230-66 EWT(l)/EWT(m)/FCC DIAAP GS/GW

ACCESSION NR: AT5023920 UR/0000/65/000/000/0007/0017

AUTHOR: Styro, B. I. 44,55

TITLE: New problems in the investigation of the natural radioactivity of the atmosphere

SOURCE: Nauchnaya konferentsiya po yadernoy meteorologii. Obninsk, 1964. Radioaktivnyye izotopy v atmosfere i ikh ispol'zovaniye v meteorologii (Radioactive isotopes in the atmosphere and their use in meteorology); doklady konferentsii. Moscow, Atomizdat, 1965, 7-17

TOPIC TAGS: atmospheric pollution, atmospheric contamination, nuclear meteorology, radioactive tracer, aerosol, radioactive aerosol, radioactive isotope

ABSTRACT: This paper emphasizes the significant role of aerosols in research on the radioactive pollution of the atmosphere and gives a summarized review of the world literature on recent research which has been carried out on the nature, distribution, and processes affecting radioactive aerosols. The need for coordinated systematic studies and techniques is stressed. Orig. art. has: 3 formulas. [ER]

ASSOCIATION: none

Card 1/2

L 3230-66

ACCESSION NR: AT5023920

SUBMITTED: 28Apr65 ENCL: 00 SUB CODE: ES, NP

NO REF SOV: 015 OTHER: 031 ATD PRESS: 4101

Card 2/2

L 3228-66 EWT(1)/EWT(m)/FCC/EWA(h) GS/GW UR/0000/65/000/000/0028/0039

ACCESSION NR: AT5023922

AUTHOR: Styro, B. I.; Matulyavichenlye, V. I. 44,55 44,55

TITLE: Spectra of the dimensions and mobility of natural radioactive aerosols in the atmosphere

SOURCE: Nauchnaya konferentsiya po yadernoy meteorologii. Obninsk, 1964. Radioaktivnyye izotopy v atmosfere i ikh ispol'zovaniye v meteorologii (Radioactive isotopes in the atmosphere and their use in meteorology); doklady konferentsii. Moscow, Atomizdat, 1965, 28-39

TOPIC TAGS: nuclear meteorology, radioactive tracer, radioactive aerosol, natural radioactive aerosol, radioactive isotope, aerosol spectra, radioactive ion spectrum, aerosol trap

ABSTRACT: Instrumentation with improved sensitivity (trap made of organic glass tube, coated with foil) devised for use in separating radioactive ions by size spectra is described. Methods and procedures used in field tests carried out during the summer of 1961 along the Baltic Sea coast and at Vilnius in 1962 to study the aerosol-size and mobility spectra of RaC' and Rn are reported, and results are compared with those obtained by other investigators. Orig. art. has: 7 figures and 2 tables. [ER]

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L 3228-66
ACCESSION NR: AT5023922

0

ASSOCIATION: none

SUBMITTED: 28Apr65 ENCL: 00 SUB CODE: ES, NP

NO REF SOV: 001 OTHER: 011 ATD PRESS: 4101

Card 2/2

L 3106-66 EWT(l)/EWT(m)/FCC/EWA(h) GS/GW

ACCESSION NR: AT5023938 UR/0000/65/000/000/0207/0216

AUTHOR: Styro, B. I.; Vebra, E. Yu.; Shopauskas, K. K.

TITLE: Radioactivity, sizes, and composition of α-radiating aerosols

SOURCE: Nauchnaya konferentsiya po yadernoy meteorologii. Obninsk, 1964. Radioaktivnyye izotopy v atmosfere i ikh ispol'zovaniye v meteorologii (Radioactive isotopes in the atmosphere and their use in meteorology); doklady konferentsii. Moscow, Atomizdat, 1965, 207-216

TOPIC TAGS: nuclear meteorology, micrometeorology, atmospheric pollution, radioactive aerosol, hot particle, atmospheric boundary layer, temperature inversion

ABSTRACT: Basically, this paper is an elaboration of an earlier study of atmospheric samples originally collected at altitudes of 0—2 km over the Vilnius area (results published in Atomnaya energiya, no. 16, 1964), in which 20 α-radiating aerosol particles had been discovered. Reexamination of these samples revealed the presence of 42 additional particles of this type. These particles and one particle discovered in studying the radioactive fogs of 19 October 1963 were examined by microphotographic techniques to determine the sizes, composition, and degree of radioactivity. [ER]
Orig. art. has: 5 figures and 1 table.

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L 3106-65

ACCESSION NR: AT5023938

ASSOCIATION: none

SUBMITTED: 28Apr65 ENCL: 00 SUB CODE: ES, NP

NO REF SOV: 002 OTHER: 001 ATD PRESS: 4101

PC

Card 2/2

L 27867-66 EWT(m)/EWA(h) GS UR/0000/65/000/000/0338/0341

ACC NR: AT5023946

AUTHOR: Yakovleva, G.V.; Garbolyauskas, Ch.A.; Styro, B.I.; Shvedov, N.P. 10 B+1

TITLE: Radioactive fallouts in Vil'nyus in 1962 19

Source: Nauchnaya konferentsiya po yadernoy meteorologii. Obninsk, 1964. Radioaktivnyye izotopy v atmosfere i ikh ispol'zovaniye v meteorologii (Radioactive isotopes in the atmosphere and their utilization in meteorology); doklady konferentsii. Moskow, Atomizdat, 1965, 338-341

TOPIC TAGS: radioactive fallout, radioisotope, radioactive contamination

ABSTRACT: Radioactive fallout products of the atmosphere were collected monthly, evaporated and incinerated. The ashes were analyzed by a scintillation gamma spectrometer. The distribution of monthly average individual and total activity was plotted by months. It revealed a shift of the usual spring maximum toward the summer of 1962, probably due to the unusually generous precipitation during the summer. The increase of fallout activity toward December of 1962, exceeding 200 microcuries/square kilometer.month can be explained by the arrival of fresh fission products. This was confirmed by plots of the activity ratios:

$$Ce^{141}/(Ce + Pr)^{144} \quad \text{and} \quad (Zr + Nb)^{95} / (Ce + Pr)^{144}$$

The second ratio showed a sudden rise in August - November. The cumulative fallouts

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L 27867-66

ACC NR: AT5023946

were calculated with the consideration of the intrinsic decay. For $(Ce - Pr)^{144}$, they reached the level of 80 microcuries/ square kilometer. The dose from the gamma radiation of the deposited fission products, at a height of 1 meter from the ground was slightly over 10 mr/year. The orig. art. has 3 figures.

ASSOCIATION: 00

SUBMITTED: 00 ENCL: 00 SUB CODE: 18,08

NO REF SOV: 000 OTHER: 000

(18)

Card 2/2

L 23985-66 EWT(1)/EWT(m)/FCC DIAAP GW

ACC NR: AP6004539 SOURCE CODE: UR/0236/65/000/004/0199/0212 (A)

AUTHOR: Styro, B. I. -- Styra, B.; Nedvetskayte, T. N. -- Nedveckaite, T.

ORG: Department of Nuclear Physics and Application of Radioactive Isotopes, Academy of Sciences, Lithuanian SSR (Otdel yadernoy fiziki i primeneniya radioaktivnykh izotopov Akademii nauk Litovskoy SSR)

TITLE: The influence of complexes of meteorological factors on the natural radioactive background of the surface layer of the atmosphere

SOURCE: AN LitSSR. Trudy. Seriya B. Fiziko-matematicheskiye, khimicheskiye, geologicheskiye i tekhnicheskiye nauki, no. 4, 1965, 199-212

TOPIC TAGS: lower atmosphere, atmospheric radioactivity, radioactivity measurement, meteorology

ABSTRACT: The authors present relationships between the concentration of radioactive matter in the atmosphere and meteorological factors. The work is based on the results of a 3-year (1962--1964) recording of the natural radioactivity of the atmosphere over Vil'nyus and Kaunas. A relationship was obtained between the radioactivity of the surface layer of the atmosphere and the vertical temperature gradient of the lower 100-meter atmospheric layer for the anticyclonic weather in the summer and autumn and a cyclonic period in the summer. Deviations from this relationship make it possible to evaluate the influence of advection on the intensity of the natural radioactivity of the surface layer. It is shown that sharp atmospheric

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L 23985-66

ACC NR: AP6004539

fronts are related to the variations in the radioactive concentration. A certain relationship is established between the climatic types of weather, on the one hand, and the radioactivity and the amplitude of radioactivity, on the other. It is shown that when a cloud of "hot" radioactive particles passes, the relationships established are disrupted. It is noted in conclusion that the present investigation as well as the literature review presented show that no well defined relationship is observed between the radioactive concentration in the surface layer and the behavior of the individual meteorological factors. The present author, therefore, makes an attempt to compare the complexes of circulation factors with atmospheric radioactivity; this comparison, however, does not provide a final resolution of the question, and, hence, the investigation of the relationships of the weather with atmospheric radioactivity concentrations should be continued. Suggestions are offered for future research. Orig. art. has: 8 figures, 2 tables, and 3 formulas.

SUB CODE: 08 / SUBM DATE: 11May65 / ORIG REF: 006 / OTH REF: 034

Card 2/2

L 27719-66 EWT(l)/EWT(m)/FCC GW

ACC NR: AP6001511 SOURCE CODE: UR/0259/65/000/009/0020/0022

AUTHOR: Styro, B.I (Doctor of physico-mathematical sciences) 30 B

ORG: Academy of Sciences of Litovskaya SSR (Akademiya nauk Litovskoy SSR)

TITLE: Nuclear meteorology - a young science

SOURCE: Nauka i tekhnika, no. 9, 1965, 20-22

TOPIC TAGS: radioactive contamination, radioactive fallout, meteorological observation

ABSTRACT: This paper, written in popular language, reviews in general terms the natural and artificial radioactivity in the atmosphere, the meteorological phenomena and the effects of fallout from nuclear explosions. The properties of 19 long-living isotopes originated by cosmic rays were summarized in a table. The possible use of radioactive airparticles as tracers for studying atmospheric phenomena was briefly outlined. The processes occurring in the atmosphere in connection with atomic bomb explosions are explained and illustrated including the formations of the so-called "hot" particles. A reference is made to a new type of hot particles discovered by a group of scientists from the Acad-

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L 27719-66

ACC NR: AP6001511 O

emy of Sciences of Litovskaya SSR. The size of these alpha-emitting particles was about 10 microns. Their half-life is expressed in thousands of years. The article is accompanied by many illustrations taken from various Soviet and foreign sources. (8 figures).

SUB CODE: 18 / SUBM DATE: None / ORIG REF: 000 / OTH REF: 000

Card 2/2 BLG